

IN THE CLAIMS

This listing of the claim will replace all prior versions and listings of claim in the present application.

Listing of Claims

1. (currently Amended) A storage control apparatus comprising:

a data I/O control section, which has a plurality of communication ports each of which is connectable with any of a plurality of information processing apparatuses, is communicatively connected to a plurality of physical disk drives for storing data, receives a data I/O request for data stored in the physical disk drives from the information processing apparatuses via the communication ports, and performs data read/write from/to the physical disk drives in accordance with the received data I/O request;

~~a cache first-memory storing a data which is read/written among the data stored in the physical disk drives;~~

storage resources which are partitioned into a plurality of storage resource groups each having one or more communication ports, storage capacity in said cache memory and one or more physical disk drives,

wherein each storage resource group is assigned to an user,

wherein said user is permitted to set a configuration of said one or more communication ports, said storage capacity in said cache memory and said one or more physical disk drives of said storage resource group assigned to said user; and

a second memory which stores storing-information on management of said storage resources including said storage resource groups each being assigned to a user and having said one or more the-communication ports, the

~~physical disk drives, and a said storage capacity of an area of in said cache the first memory, and said one or more physical disk drives allocated for each user using the information processing apparatuses,~~

wherein in response to reception of a transmission request of the information on management of a first the storage resources group from a first user via a user interface, the storage control apparatus transmits an identifier of the one or more communication ports, an identifier of the one or more physical disk drives, and a storage capacity of the cache area of the first memory in the first storage resource group assigned to which have been allocated for said first user are transmitted to said user interface, and
~~wherein a number of data blocks allocated to each area of the first memory is increased or decreased as needed to provide a set storage capacity of the first memory to each user usable by the user so as not to be affected by use of the first memory by the other users.~~

2. (currently Amended) A storage control apparatus as claimed in claim 1, wherein said information on management of the storage resources includes:

information representing a first relationship correlation between the one or more physical disk drives of each storage resource group physical disk drive and a data amount which can be stored in the cache first-memory among the data stored in the one or more physical disk drives, and

information representing a second relationship correlation between the first relationship correlation and the one or more communication ports of each storage resource group.

3. (currently amended) A storage control apparatus as claimed in claim 1, wherein said one or more physical disk drives of each storage resource group ~~physical disk drives~~ include of a plurality of hard disk drives constituting an Redundant Array of Inexpensive Disk (RAID).

4. (currently amended) A method for controlling a storage control apparatus comprising a data I/O control section, which has a plurality of communication ports each of which is connectable with one of a plurality of information processing apparatuses, is communicatively connected to a plurality of physical disk drives for storing data, receives a data I/O request for data stored in the physical disk drives from the information processing apparatuses via the communication ports, and performs data read/write from/to the physical disk drives in accordance with the received data I/O request; a cache ~~first memory storing a data which is read/written among the data stored in the physical disk drives;~~ and a second memory storing information on management of storage resources including the communication ports, the physical disk drives, and a storage capacity of an area of the first memory allocated for each user using the information processing apparatuses; said method comprising the steps of:

receiving a transmission request of the information on management of the a first storage resource group of storage resources from a first user via a user interface,

wherein said storage resources are partitioned into a plurality of storage resource groups each having one or more communication ports, storage capacity in said cache memory and one or more physical disk drives,
wherein each storage resource group is assigned to a user,
wherein said user is permitted to set a configuration of said one or more communication ports, said storage capacity in said cache memory and said one or more physical disk drives of said storage resource group assigned to said user;

wherein the second memory stores information on management of said storage resources including said storage resource groups each being assigned to a user and having said one or more communication ports, said storage capacity in said cache memory, and said one or more physical disk drives; and

in response to reception of the transmission request of the information on management of the first storage resource group from the first user via the user interface, transmitting an identifier of the one or more communication ports, an identifier of the one or more physical disk drives, and a storage capacity of the cache memory in the first storage resource group assigned to said first user
~~to said receiving step, transmitting to said user interface an identifier of the communication port, an identifier of the physical disk drive, and a storage capacity of the first memory which have been allocated for said user, and~~

~~wherein a number of data blocks allocated to each area of the first memory is increased or decreased as needed to provide a set storage~~

capacity of the first memory to each user usable by the user so as not to be affected by use of the first memory by the other users.

5. (currently Amended) A method for controlling a storage control apparatus as claimed in claim 4, wherein said information on management of the storage resources includes information representing a first relationship correlation between the one or more physical disk drives of each storage resource group physical disk drive and a data amount which can be stored in the cache first memory among the data stored in the one or more physical disk drives, and information representing a second relationship correlation between the first relationship correlation and the one ore more communication ports.

6. (currently amended) A method for controlling a storage control apparatus as claimed in claim 4, wherein said one or more physical disk drives of each storage resource group physical disk drives include a plurality of hard disk drives constituting an Redundant Array of Inexpensive Disk (RAID).

7. (currently amended) A storage control apparatus according to claim 1, wherein said data I/O control section comprisingcomprises:

a channel control section, which has a plurality of communication ports each of which is connectable with one of a plurality of information processing apparatuses and receives a data I/O request for data stored in physical disk

drives including a plurality of hard disk drives constituting a Redundant Array Inexpensive Disk (RAID); and

a disk control section which is communicatively connected to the physical disk drives and performs data read/write from/to the physical disk drives according to the data I/O request;

~~—— a first memory storing a data which is read/written among the data stored in the physical disk drives; and~~

~~—— a second memory storing information on management of storage resources including the communication ports, the physical disk drives, and a storage capacity of an area of the first memory allocated for each user using the information processing apparatuses;~~

~~—— wherein in response to reception of a transmission request of the information on management of the storage resources from a user via a user interface, an identifier of the communication port, an identifier of the physical disk drive, and a storage capacity of the first memory which have been allocated for said user are transmitted to said user interface, and~~

~~—— wherein a number of data blocks allocated to each area of the first memory is increased or decreased as needed to provide a set storage capacity of the first memory to each user usable by the user so as not to be affected by use of the first memory by the other users.~~

8. (new) A storage control apparatus according to claim 2, wherein said data I/O control section comprises:

a channel control section, which has a plurality of communication ports each of which is connectable with one of a plurality of information processing

apparatuses and receives a data I/O request for data stored in physical disk drives including a plurality of hard disk drives constituting a Redundant Array Inexpensive Disk (RAID); and

a disk control section which is communicatively connected to the physical disk drives and performs data read/write from/to the physical disk drives according to the data I/O request.

9. (new) A storage control apparatus according to claim 3, wherein said data I/O control section comprises:

a channel control section, which has a plurality of communication ports each of which is connectable with one of a plurality of information processing apparatuses and receives a data I/O request for data stored in physical disk drives including a plurality of hard disk drives constituting a Redundant Array Inexpensive Disk (RAID); and

a disk control section which is communicatively connected to the physical disk drives and performs data read/write from/to the physical disk drives according to the data I/O request.

10. (new) A storage control apparatus according to claim 1, wherein a number of data blocks allocated to the storage capacity in said cache memory of each storage resource group is increased or decreased as needed to provide a set storage capacity of the cache memory to each user so as not to be affected by use of the cache memory by the other users.

11. (new) A method for controlling a storage control apparatus according to claim 4, wherein a number of data blocks allocated to the storage capacity in said cache memory of each storage resource group is increased or decreased as needed to provide a set storage capacity of the cache memory to each user so as not to be affected by use of the cache memory by the other users.